TITLE: Pseudo-Random Number Generation Based on Periodic Sampling of One or More Linear Feedback Shift Registers INVENTOR: Wade Keith Wan, et al. DOCKET NO. 15065US01 ATTORNEY: CCW, PHONE: 312-775-8000 SHEET 1 OF 6

Output of a 3-bit LFSR

Iteration #	LFSR Outputs (X ₂ X ₁ X ₀)	
1	011	
2	001	
3	100	
4	010	
5	101	
6	110	
7	111	
8	011	

Figure 1

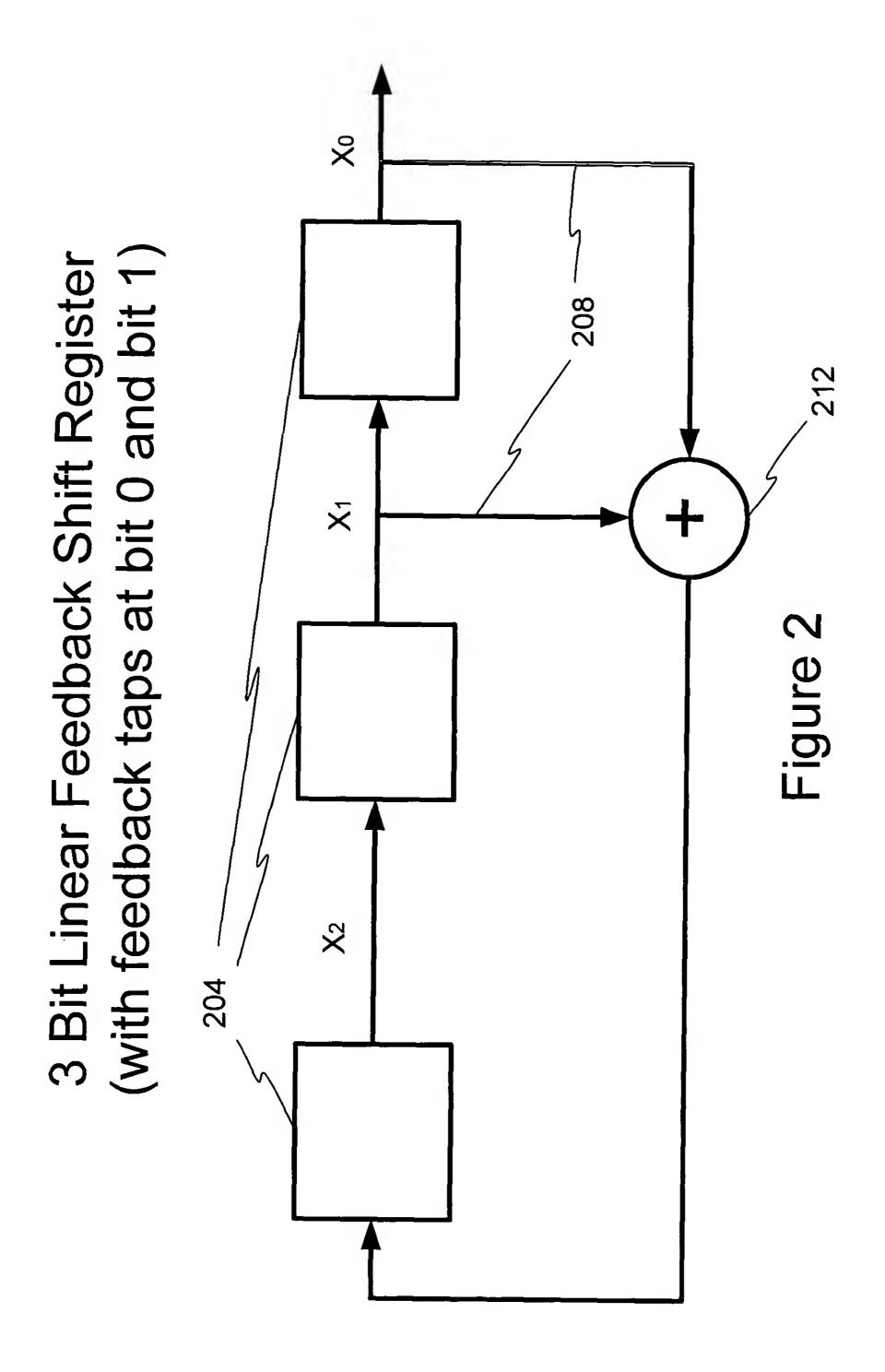
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Output of the same 3-bit LFSR used in Figure 1 when it is sampled every 3 iterations

Iteration #	LFSR Outputs (X ₂ X ₁ X ₀)	
1	100	
2	110	
3	001	
4	101	
5	011	
6	010	
7	111	
8	100	

Figure 3

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Output of periodic switching between two 3-bit LFSRs when the switching is done after every iteration

ITERATION	LFSR #1	OUTPUT OF PERIODIC SWITCHING	LFSR #2
1	011	011	
2		100	100
3	001	001	
4		110	110
5	100	100	
6		111	111
7	010	010	
8		011	011
9	101	101	
10		101	101
11	110	110	
12		010	010
13	111	111	
14		001	001
15	011	011	
16		100	100

Figure 4

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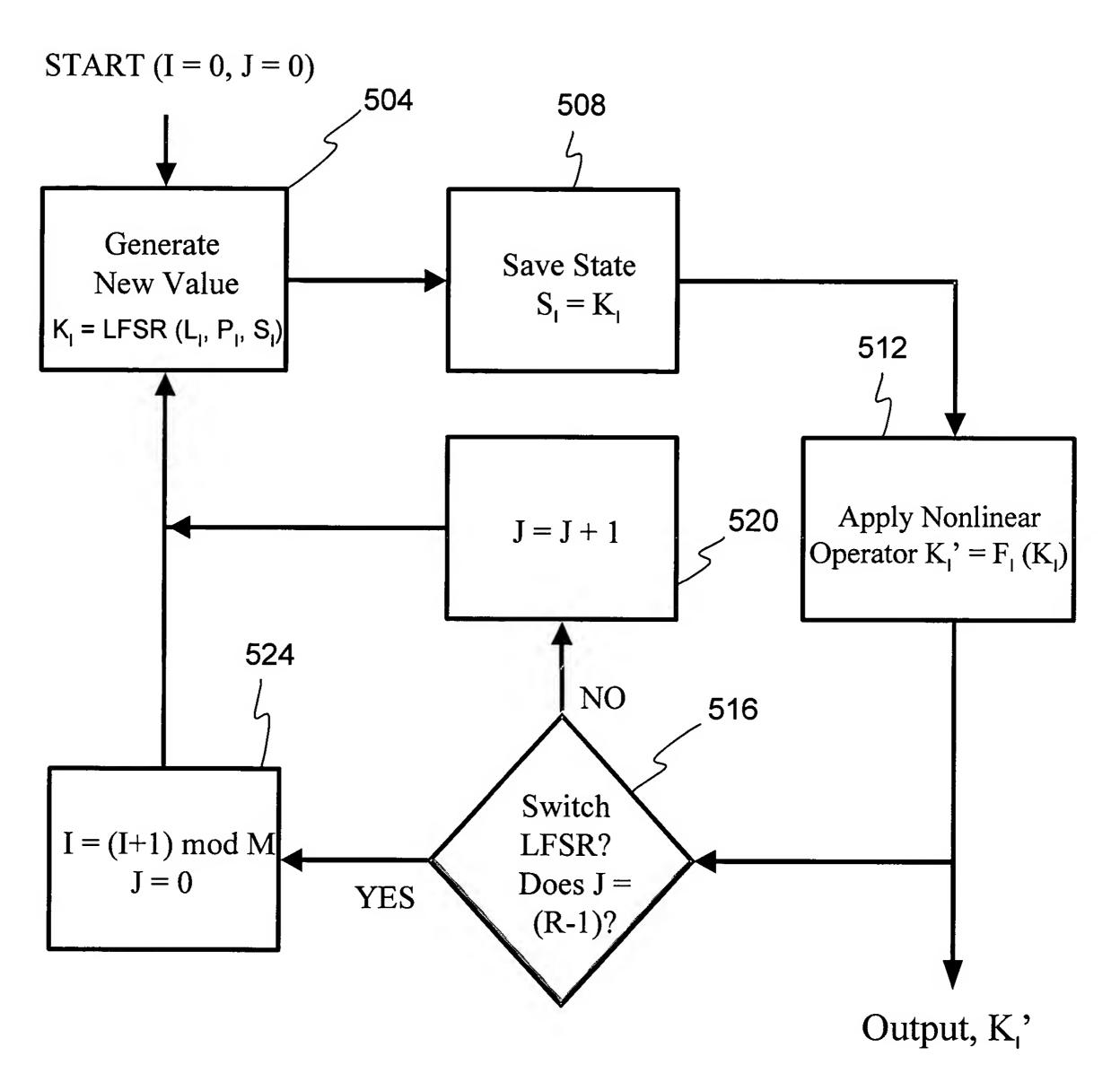


Figure 5

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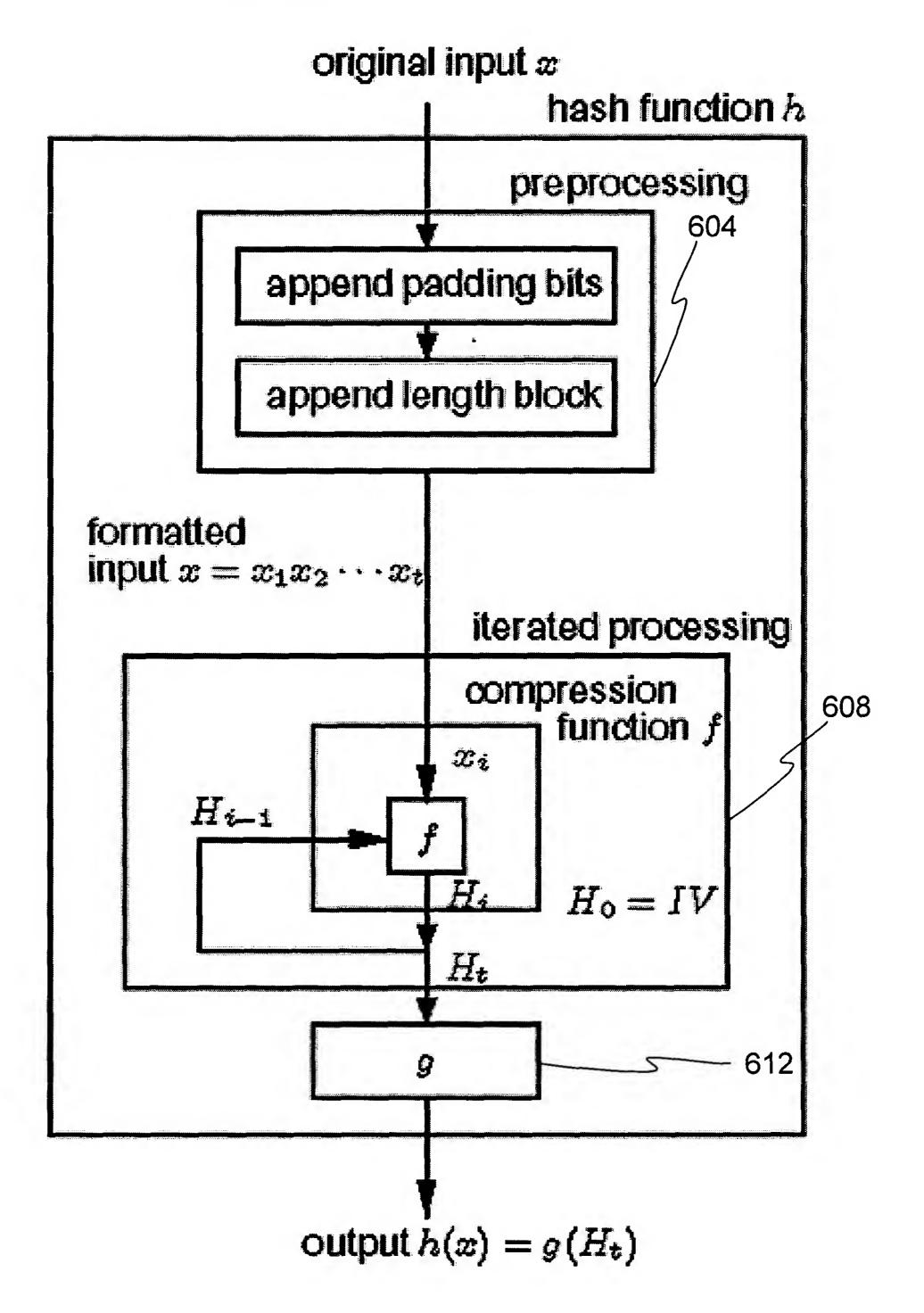


Figure 6